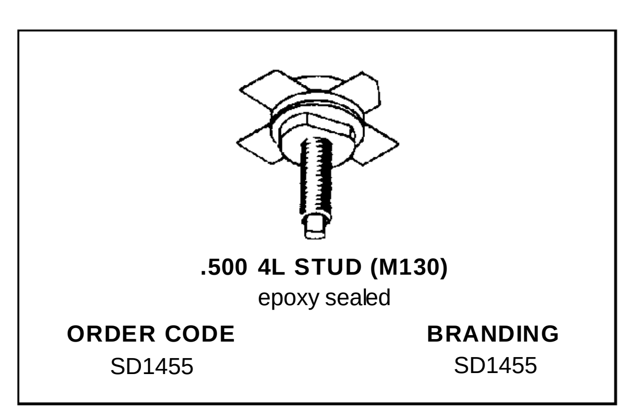


SD1455

RF & MICROWAVE TRANSISTORS
TV/LINEAR APPLICATIONS

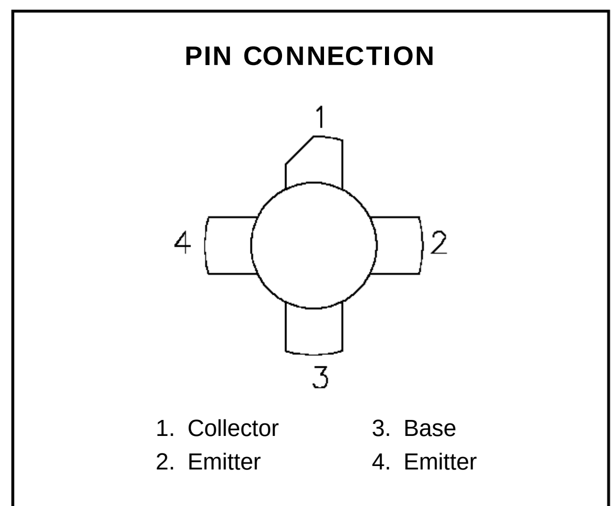
- 170 - 230 MHz
- 25 VOLTS
- IMD – 55dB
- COMMON EMITTER
- GOLD METALLIZATION
- HIGH SATURATED POWER CAPABILITY
- DIFFUSED EMITTER BALLAST RESISTORS
- DESIGNED FOR HIGH POWER LINEAR OPERATION
- P_{OUT} = 20 W MIN. WITH 8.0 dB GAIN



.500 4L STUD (M130)
epoxy sealed

ORDER CODE	BRANDING
SD1455	SD1455

PIN CONNECTION



1. Collector
2. Emitter
3. Base
4. Emitter

DESCRIPTION

The SD1455 is a gold metallized epitaxial silicon NPN planar transistor using diffused emitter ballast resistors for high linearity Class A operation in VHF and Band III television transmitters and transposers.

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C)

Symbol	Parameter	Value	Unit
V_{CEO}	Collector-Emitter Voltage	35	V
V_{CES}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	4.0	V
I_C	Device Current	8.0	A
P_{DISS}	Power Dissipation	140	W
T_J	Junction Temperature	+200	°C
T_{STG}	Storage Temperature	– 65 to +150	°C

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	1.5	°C/W

ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	I_C = 50 mA	I_E = 0 mA	65	—	—	V
BV_{CER}	I_C = 50 mA	R_{BE} = 10 Ω	60	—	—	V
BV_{CEO}	I_C = 50 mA	I_B = 0 mA	35	—	—	V
BV_{EBO}	I_E = 10 mA	I_C = 0 mA	4.0	—	—	V
I_{CES}	V_{CE} = 50 V	V_{BE} = 0 V	—	—	5	mA
h_{FE}	V_{CE} = 5 V	I_C = 1 A	20	—	120	—

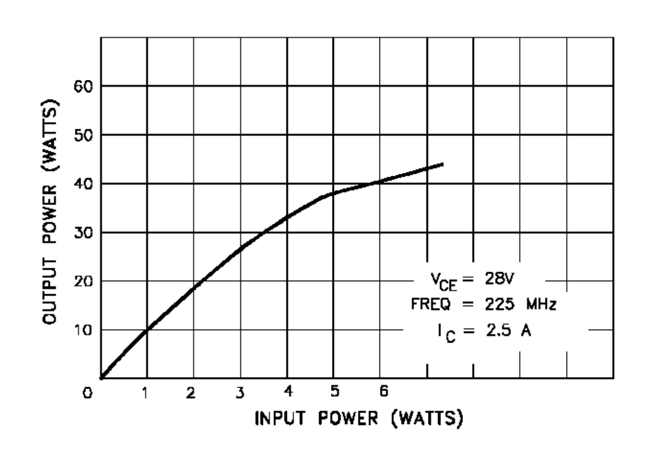
DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 225 MHz	V_{CE} = 25 V	I_C = 2.5 A	20	—	—	W
G_P	f = 225 MHz	V_{CE} = 25 V	I_C = 2.5 A	8.0	9.0	—	dB
IMD_3*	P_{OUT} = 14 W	V_{CE} = 25 V	I_C = 2.5 A	—	–55	—	dBc
C_{OB}	f = 1 MHz	V_{CB} = 30 V		—	—	85	pF

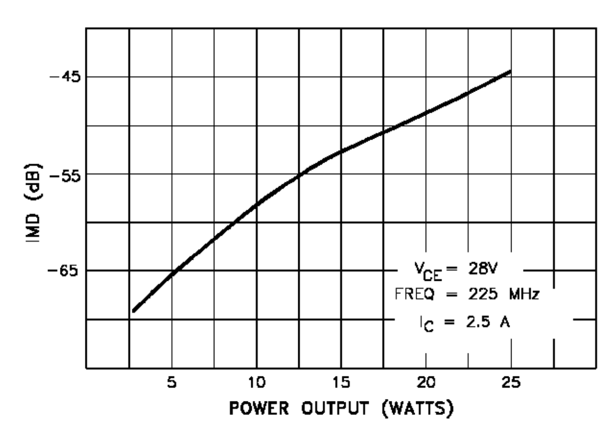
Note: * f = 225 MHz
3 Tone Testing
Vision Carrier –8dB/ref
Sound Carrier –7dB/ref
Sideband Carrier –16dB/ref

TYPICAL PERFORMANCE

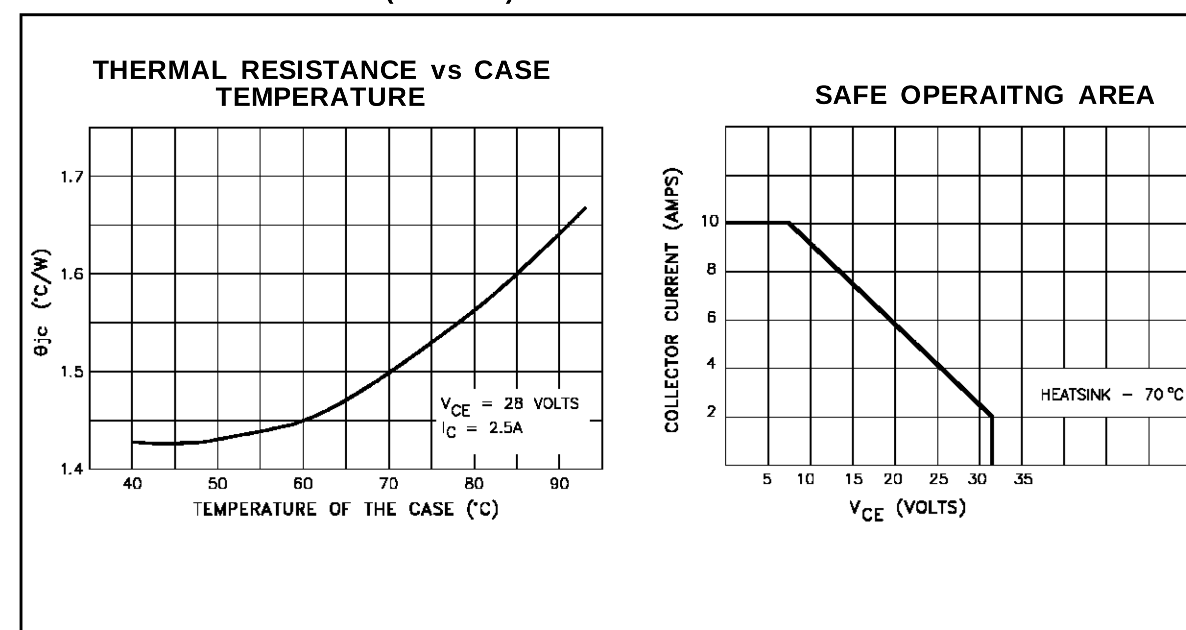
POWER OUTPUT vs POWER INPUT



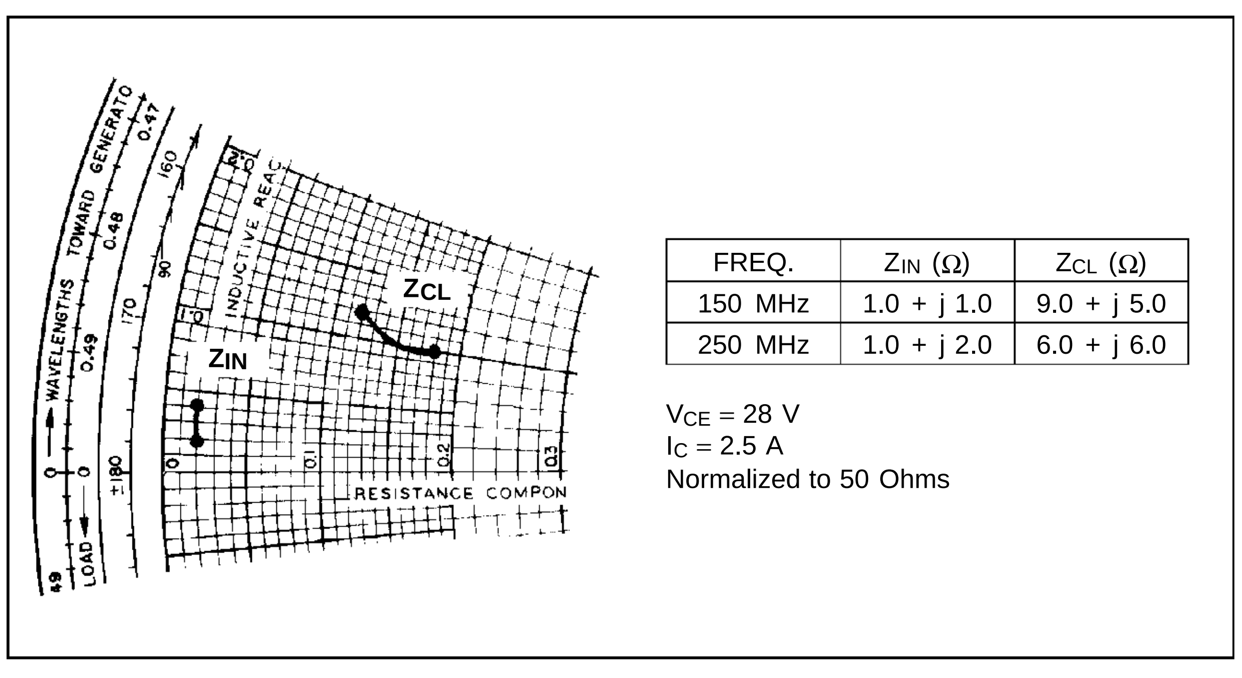
INTERMODULATION DISTORTION vs POWER OUTPUT



TYPICAL PERFORMANCE (CONT'D)



IMPEDANCE DATA



FREQ.	Z_{IN} (Ω)	Z_{CL} (Ω)
150 MHz	1.0 + j 1.0	9.0 + j 5.0
250 MHz	1.0 + j 2.0	6.0 + j 6.0

V_{CE} = 28 V
I_C = 2.5 A
Normalized to 50 Ohms

PACKAGE MECHANICAL DATA

Ref.: Dwg. No.12-0130

SGS-THOMSON MICROELECTRONICS		
	MINIMUM Inches/mm	MAXIMUM Inches/mm
A	1.010/25,65	1.050/26,67
B	.220/5,59	.230/5,84
C	.495/12,57	.505/12,83
D	.003/0,08	.007/0,18
E	.160/4,06	.180/4,57
F	.622/15,80	
G	.100/2,54	.130/3,31
H	.415/10,54	.425/10,80
I	.720/18,29	
J	.250/6,35	.290/7,37

